REMARKS

Claims 1, 4-16 and 41-53 are pending. Claims 1, 8-10, 12, 14-16, 41-50 and 53 stand rejected. Claims 4-7, 11, 13 and 51-52 are objected to for depending from a rejected based claim. Applicants respectfully request reconsideration of the pending rejections based on the following comments.

Rejection Over DeGuire et al.

The Examiner rejected claims 1, 8-10, 12 and 14 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent 5,352,485 to DeGuire et al. (the DeGuire patent). The Examiner cited the DeGuire patent for disclosing an inorganic layer comprising self-assembled monolayers. The Examiner asserted "[a]lthough DeGuire does not explicitly disclose inorganic particles, it would have been obvious to one of ordinary skill in the art to recognize DeGuire obtains inorganic particles because the reference comprises an inorganic layer." To simplify the discussion, Applicants incorporate by reference their arguments from the Response of January 27, 2004. Here, Applicants focus on the response of the Examiner in the Office Action of March 31, 2004. Applicants respectfully request reconsideration of the rejection based on the following comments.

With all due respect, Applicants noted two significant short falls of the DeGuire patent. First, Applicants noted that the DeGuire patent does not teach, suggest or motivate inorganic particles. In response, the Examiner noted that the De Guire patent states at column 1, lines 8-10 the following: "The resulting metal oxide film has a highly uniform packing density and particle size." The meaning of this statement is far from clear. The discussion in the examples further describes granular films with primary particle sizes. See, for example, column 8, lines 3-7. This would seem to describe domains that are merged within the film. Applicants' maintain that the films are not particles as described and claimed by Applicants'. Applicants

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maintain that the use of the term film along with the way the film is formed implies that a continuous network is being described with identifiable domains. This issue could be examined further except that the DeGuire patent has another significant shortcoming such that further examination of this issue is not necessary.

As also noted by Applicants previously, the DeGuire patent does not teach, suggest or motivate self-assembled structures that are **localized** in **separate, selected** locations covering a portion of the layer in an integrated assembly. This deficiency in the reference is equivalent to the shortcoming of the Alivisatos patent with respect to claim 1, as noted in detail in Applicants' Appeal Brief of July 7, 2003. The Examiner does not seem to have addressed this issue in the Office Action of March 31, 2004. The Examiner asserted that the reference teaches an inorganic layer comprising self-assembled monolayers, but this does not relate to localization in separate, selected locations.

As noted in MPEP 2143.03, the cited references must teach or suggest all claim features to render a claim prima facie obvious. Since the DeGuire patent does not teach, suggest or motivate structures localized in separate, selected locations, the DeGuire patent clearly does not prima facie render Applicants' claims obvious. Applicants respectfully request withdrawal of the rejection of claims 1, 8-10, 12 and 14 under 35 U.S.C. § 103(a) as being unpatentable over the DeGuire patent.

Rejections Over Alivisatos et al.

The Examiner rejected claims 15, 16, 41-50 and 53 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent 5,751,018 to Alivisatos et al. (the Alivisatos patent). The Examiner cited the Alivisatos patent for disclosing self-assembled bifunctional organic monolayers as bridge compounds exposed to solutions of nanocrystals. The Examiner noted that the Alivisatos patent discloses inorganic surfaces such as metals and oxides. Unfortunately,

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Applicants did not successfully present their argument regarding the shortcomings of the Alivisatos patent with respect to the present claims. To simplify the discussion, Applicants incorporate by reference their arguments from the Response of January 27, 2004. Applicants attempt to clarify the issues. Applicants respectfully request reconsideration of the rejection based on the following comments.

In response to Applicants' previous arguments, the Examiner indicated that "Alivisatos discloses inorganic surfaces using self-assembled monolayers (column 2, lines 36-40) where the intended use of the material comprised in the substrate is of little consequence, as intended use is given little patentable weight in product claims." However, Applicants' argument had nothing to do with intended use. Applicants' arguments related to the **claimed structure** and its non-obvious differences from the Alivisatos **structure**. The Alivisatos patent teaches a substrate on which particles are attached. However, the particles are taught in the Alivistaos patent to be sulfide particles, such as cadmium sulfide, and only sulfide particles. The Alivisatos patent simply does not teach, suggest or motivate metal oxide particles, and certainly does not teach metal oxide particles having a particle size of less than 100 nanometers. The Alivisatos patent teaches bonding of cadmium sulfide particles to metal oxide surfaces, but this has nothing to do with metal oxide particles.

Since the Alivisatos patent does not teach, suggest or motivate metal oxide particles, the Alivisaots patent clearly does not render Applicants' claimed invention prima facie obvious. Applicants respectfully request withdrawal of the rejection of claims 15, 16, 41-50 and 53 under 35 U.S.C. § 103(a) as being unpatentable over the Alivisatos patent.

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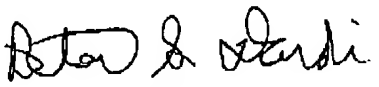
CONCLUSIONS

In view of the foregoing, it is submitted that this application is in condition for allowance. Favorable consideration and prompt allowance of the application are respectfully requested.

The Examiner is invited to telephone the undersigned if the Examiner believes it would be useful to advance prosecution.

Respectfully submitted,



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